

**What is claimed is:**

1           1.       A photolithography processing system including:  
2               a table positioned near a loader, where a carrier is positioned, for  
3       supporting a wafer that is being transported by a robot;  
4               a plurality of illumination tools for illuminating a surface of the wafer  
5       positioned on the table;  
6               a camera for taking pictures of the surface of the wafer; and  
7               a controller for controlling operations of the robot, the plurality of  
8       illumination tools and the camera and for detecting the presence of impure  
9       matters on the surface of the wafer.

1           2.       The photolithography processing system as claimed in claim 1,  
2       wherein the plurality of illumination tools are singular or plural lasers,  
3       ultraviolet lamps, or a combination of the two.

1           3.       The photolithography processing system as claimed in claim 1,  
2       wherein the camera is made of a charge-coupled device.

1           4.       The photolithography processing system as claimed in claim 1,  
2       wherein the plurality of illumination tools comprise:  
3               a plurality of first illumination tools positioned laterally at different  
4       heights to illuminate the surface of the wafer at various predetermined angles  
5       of incidence; and  
6               a second illumination tool to illuminate the surface of the wafer  
7       vertically from above the wafer on the table.

1           5.       The photolithography processing system as claimed in claim 4,  
2       wherein the plurality of first illumination tools are positioned to have an angle  
3       of incidence greater than 0° and less than approximately 70°.

1           6.       The photolithography processing system as claimed in claim 4,  
2       further comprising a half-mirror positioned between the camera and the wafer  
3       and apart from the angle of incidence of the plurality of first illumination tools,  
4       wherein the second illumination tool is positioned to illuminate the surface of  
5       the wafer through the half-mirror.

1           7.       The photolithography processing system as claimed in claim 4,  
2       wherein the second illumination tool is positioned around the camera.

1           8.       The photolithography processing system as claimed in claim 7,  
2       wherein the second illumination tool is a plurality of second illumination tools.

1           9.       The photolithography processing system as claimed in claim 1,  
2       wherein the controller controls luminous intensity and angle of incidence  
3       according to an illumination control signal.

1           10.      The photolithography processing system as claimed in  
2       claim 9, wherein the first illumination tools and the second illumination tools  
3       comprise:

4           the first illumination tools positioned on both sides of the table to allow  
5           various changes in height for illuminating at an angle of incidence; and the  
6           second illumination tool vertically illuminating the surface of the wafer from  
7           the top of the table.

1           11.     The photolithography processing system as claimed in  
2           claim 10, the controller further comprising:  
3                    elevating means to slide up or down the first illumination tools in  
4           response to an applied illumination control signal; and  
5                    a luminous intensity unit to control luminous intensity by varying a  
6           value of a resistance connected in series with the power source that is  
7           connected to the first and second illumination tools in response to other  
8           applied illumination control signals.

1           12.     The photolithography processing system as claimed in  
2           claim 10, wherein the plurality of first illumination tools are positioned to have  
3           an angle of incidence greater than 0° and less than approximately 70°.

1           13.     The system as claimed in claim 1, wherein the table is able to  
2           rotate in response to the control signals from the controller to thereby rotate  
3           the position of the wafer in response to angles of incidence of the first and  
4           second illumination tools.

1           14.     The system as claimed in claim 1, wherein the table is  
2 installed to allow lateral or longitudinal motion.

1           15.     A method of a photolithography processing system  
2 comprising:  
3           illuminating a surface of a wafer with first and second illuminating  
4 tools;  
5           taking pictures of the surface of the wafer with a camera while the  
6 surface of the wafer is being illuminated;  
7           receiving a signal from the camera in a controller;  
8           detecting a presence of particles on the surface of the wafer with the  
9 controller; and  
10          transporting the wafer to the process-performing or cleaning position  
11 according to whether particles are detected on the surface of the wafer.

1           16.     The method of a photolithography processing system as  
2 claimed in claim 15, wherein the illuminating of the surface of the wafer  
3 comprises:  
4           positioning a plurality of first illumination tools at varying lateral heights  
5 relative to the table to illuminate the surface of the wafer at predetermined  
6 angles of incidence; and  
7           positioning the second illumination tool to illuminate the surface of the  
8 wafer vertically from above the wafer on the table.

1           17.     The method of a photolithography processing system as  
2     claimed in claim 15, wherein the taking of pictures of the surface of the wafer  
3     comprises:

4           obtaining a first image while the first illumination tools are maintained  
5     in an 'on' position and the second illumination tool is maintained in an 'off'  
6     position;

7           obtaining a second image while the first illumination tools are  
8     maintained in an 'off' position and the second illumination tool is maintained  
9     in an 'on' position; and

10          forming a multi-dimensional image by combining the first and second  
11     images.